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**New Nuclear Conceptions:**

**How We Have Changed the Way We Think About Nuclear Weapons  
and Why it Matters**

Warren Stern/Class of 1997

Course 5605

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It has become axiomatic to note that the world has changed with the demise of the Soviet Union. In the area of nuclear weapons, the shift has been particularly apparent. The United States and Russia have agreed to massive reductions in nuclear deployments. More significantly, several other nuclear and near nuclear nations have been willing to eliminate their nuclear weapons and accept international inspections of residual capabilities. Furthermore, the US appears to be following a policy of devaluing the role of nuclear weapons in international relations and several former high ranking defense officials have even urged that the superpowers eliminate their nuclear capabilities. Although it is obvious *that* the world has been transformed, it is less apparent *how* the world has changed, that is, how the observed nuclear changes relate to the end of the cold war.

Rational models of national security decision-making would argue that the observed nuclear transformation is simply a reflection of the reduction in superpower tensions. These models would suggest that policy-makers have revised their assumptions about the international environment and decided that the new threat environment is such that their national interests allow nuclear reductions. Bureaucratic models of decision-making would add that institutional interests have also played an important role in this transformation. While the end of the cold war itself did provide a basis for altering nuclear postures, it is difficult to explain all of the observed nuclear changes based solely on a reduction in superpower tensions and institutional factors. Indeed, a review of the nuclear policies in the US reveals a pattern that is difficult to explain solely in terms of rational interest-driven strategy.

This essay argues that an understanding of nuclear policy-making requires the inclusion of a less tangible factor -- a *psychological* factor -- which we will call the "nuclear conception." Such conceptions underlie most nuclear policies and have likely always played a

major role in nuclear strategies. The key conclusion of the essay is that the changes currently apparent in the realm of nuclear policy are in part due to the fact that nuclear conceptions are in the process of fundamental change and these changes will have broader implications for US nuclear strategy. This change in conception, while largely sparked by US-Soviet rapprochement, is deeper than the simple suspension of superpower ideological competition.

### Why Nuclear Conceptions

When we refer to nuclear conceptions we are, at a basic level, referring to policy-makers' notions or images of nuclear explosives. These notions exist apart from the security environment, but they are also affected by that environment. They are in part preconceptions that form the international environment, and part reaction to the international environment. Conceptions are entire belief templates which can affect views such as what good nuclear weapons can accomplish, who should possess them, and what the risks of nuclear employment are.

Humans approach few issues without preconceptions. This is particularly true in the case of abstract issues such as nuclear energy and strategy. Our minds are not blank slates on which a strategy can be logically etched. Spencer Weart wrote in his history of nuclear energy, "modern thinking about nuclear energy employs imagery that can be traced back to a time long before the discovery of radioactivity. .such thinking has less to do with current physical reality than with autonomous features of our society, our culture, and our psychology."<sup>1</sup> Though Weart focuses his analysis on public attitudes toward nuclear electric energy and the precise nature of this nuclear imagery, his insight has important implications for nuclear strategy. For

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<sup>1</sup> Spencer R. Weart, Nuclear Fear: A History of Images, Harvard University Press, Cambridge, MA, 1988, p 421

if our thinking about nuclear energy is based less on its the physical reality than on our psychology, then nuclear strategies must also be also based largely on the subconscious beliefs

As Henry Kissinger has pointed out, nuclear strategy itself is based on essentially psychological criteria. Aside from two relatively minor detonations at the end of World War II, nuclear weapons have never been used in combat. Thus they have had an effect on international affairs only because political leaders believe they do so. Or rather, because political leaders believe their adversaries believe they do

It is to be expected that preconceptions or basic belief structures would exert an extremely strong influence in circumstances where they cannot be tested. Since no one really knows how effective or risky nuclear strategies are, preconceived ideas come to the forefront. Colin Gray wrote, “in the whole nuclear realm, for the most prominent case, theory has far outstripped evidence and common sense.”<sup>2</sup> Absent facts, a rational strategist relies on theory, but if a theory cannot be tested, the primary guidance likely comes from beliefs. What it takes to deter and what can be deterred by nuclear weapons have been a matter of theology as much as strategy.

The assertion that conceptions play an important role in nuclear policy is also supported by the fact that the nuclear weapons are not easily assimilated into conventional risk/reward decision-making and strategy development. The damage associated with a significant nuclear exchange would be so severe that it is questionable whether policy-makers can fully integrate the risks and moral issues associated with nuclear posturing in their policy decisions in the logical manner assumed by standard models of national security decision-making. In the words of General Lee Butler, who’s views we will discuss later, “we have yet to

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<sup>2</sup> Colin S. Grey, “The Influence of Space Power Upon History,” *Comparative Strategy*, 1996, Vol 15, p. 293

fully grasp the monstrous effects these weapons, that the consequences of their use defy reason . ”<sup>3</sup> The devastating power of nuclear weapons is simply a force humans have never dealt with before and likely a concept that evolution has not prepared us to comprehend . It is a unique conceptual challenge

This is not to say that policy-makers are flippant about nuclear risks, or have not reviewed science’s best estimates of the results of a nuclear exchange . Rather, the point is that the damage is so extensive that standard deductive planning associated with other weapons systems and strategies do not suffice. It is not at all clear that one can fully comprehend what it means to kill tens or hundreds of millions of noncombatants, to kill a nation, or risk having a majority of your population destroyed . Simply put, when discussing a nuclear exchange, the risk/reward calculations assumed in rational models of national security strategy lose much of their meaning because in many cases, the risk becomes effectively infinite. *This is relevant because when existing models of decision-making fail, other subconscious effects become more important*

### Cold War Conceptions

For most of the cold war, the conception of nuclear weapons was what one could call “nuclear optimism.” This was the conception of nuclear weapons as inherently good. Though dangerous, nuclear weapons were viewed as capable of bringing the world peace through the threat of destruction . Nuclear weapons were viewed as essential for national survival with the rewards of employment substantially outweighing the risks. To be clear, it is generally uncontested that the threat of destruction can deter and in certain cases compel an enemy. But, throughout much of the cold war, nuclear strategies assumed much more. Nuclear

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<sup>3</sup> General Lee Butler, USAF Retired, The State of the World Forum, National Press Club Remarks, Dec 4 1996

weapons were assumed to have a quality of overall propriety that was not justified by real world evidence. This optimism took two forms which we will call “controlled nuclear optimism” and “limited nuclear optimism ”

The Eisenhower and Nixon administrations provide good examples of *controlled nuclear optimism*. Both had a conception of nuclear weapons not only as virtuous but also as inherently controllable. They assumed that it was reasonable to make nuclear threats and use nuclear weapons in a wide range of circumstances and that escalation of their use could be carefully controlled. Eisenhower’s *New Look* Strategy emphasized the primary reliance on nuclear weapons to repel attack for a wide range of contingencies. According to strategic historian John Lewis Gaddis, Eisenhower was willing to use or threaten to use nuclear weapons in any of a number of circumstances -- a Soviet conventional force attack in Europe, a violation of the Korean armistice, a decision to intervene directly in Indochina, or a Chinese communist assault on Quemoy and Matsu.<sup>4</sup> Eisenhower’s continued faith in this strategy arose from domestic fiscal restraints as well as his fundamental conception of nuclear weapons

This conception was also apparent in the Nixon administration. Henry Kissinger had an image of nuclear weapons as a device whose employment could be carefully controlled. This was exhibited, for example, during the 1973 Middle East war when Kissinger ordered that the US nuclear alert status be raised to DefCon III in order to send a *signal of resolve* to the Soviet Union.<sup>5</sup> The policy of using nuclear alert status to signal resolve assumes controllability of nuclear escalation. It also presumes that the signal has credibility; that the Soviets would believe that the risk of nuclear conflict was high enough to concede to US wishes, but that, at the same time, the risks of mutual annihilation are sufficiently low. It would be difficult to

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<sup>4</sup> John Lewis Gaddis, *Strategies of Containment*, Oxford University Press, Oxford, 1982, p. 171

<sup>5</sup> Henry Kissinger, *Years of Upheaval*, Little Brown and Company, Boston, p. 588

justify this policy without a pre-existing image or conception of nuclear weapons that support the policy.

The Kennedy administration followed a conception of *limited nuclear optimism*. While Kennedy shared a great deal of Eisenhower's optimism regarding the stability that nuclear weapons bestowed, he gave top priority on decreasing reliance on these weapons. While the international environment had not changed substantially in the years between the two administrations, the Kennedy administration moved away from the Eisenhower's assumption that nuclear weapons were useful to deter limited aggression. According to the Policy Planning Council in 1961, "in conditions of nuclear stalemate, initiating a recourse to nuclear weapons is irrational. The threat to do so is only convincing if it comes from an opponent who has been driven to desperation."<sup>6</sup> Kennedy had a much more limited view of what nuclear weapons could accomplish.

To be sure, there were important political, economic, and security rationales for policies chosen during the cold war. And, as described above, there were important distinctions between policies followed. However, the distance between the international and domestic environments and the policies chosen had to be bridged by a conception, a fundamental faith in the overall propriety of nuclear weapons.

#### Return of an Old Conception: Nuclear Anxiety

General Lee Butler (USAF Retired) and General Andrew Goodpaster surprised many in the national security community in 1996 when, after spending most of their careers supporting US nuclear policies, they publicly urged that the US commit to the elimination of nuclear weapons. Their rationale for this newly adopted strategy was that the risks associated

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<sup>6</sup> John Lewis Gaddis, Strategies of Containment, Oxford University Press, Oxford, 1982, p. 196.



with the deployment and proliferation were simply too high and that the US was capable of leading the world to nuclear disarmament. Other defense experts who had previously rejected a commitment to disarmament as being contrary to US interests have also recently lent credibility to this new strategy.

This transformation appears somewhat confused as few of these risks associated with nuclear deployments were created with the end of the cold war. Indeed, in certain cases, quite the opposite may be true. While the Russian nuclear threat may have subsided, its final status is not at all clear and Chinese nuclear capabilities are increasing, as are those of several other nations. The world has changed in an important way, but not in a fundamental way that would support General Butler's change of heart

What has changed is that General Butler and others have adopted a new conception of nuclear weapons. In other words, underlying belief structures have shifted. In his words, "the terror-induced anesthesia which suspended rational thought" was removed. The end of US - Soviet competition allowed a new conception to come to the forefront. This is not strictly a rational interest/risk based strategy assessment. The threat and the conception interacted in a nonlinear way to create a new strategy. Neither one alone can account for the observed changes.

This different conception is one we will call "nuclear anxiety". *Nuclear anxiety* emphasizes the deadly power of nuclear weapons and assumes the possibility of their use is real and the costs are intolerable. As the name implies, the conception is generally pessimistic about human control of nuclear weapons and attributes an evil nature to them. In a sense, this is the frankenstein model. It assumes that humans have created a weapon (i.e. frankenstein

monster) that they cannot control. This conception leads directly to the belief that the only way to deal with nuclear weapons is to minimize or eliminate their role in international affairs.

*Nuclear anxiety* is not completely new. Indeed, this conception has been held by many outside of policy circles throughout most of the nuclear age. It has appeared in government only for short periods of time, however. The first was in the initial years of the nuclear age. In that period, American policy-makers vacillated between *nuclear optimism* and *nuclear anxiety*. President Truman, for example, greeted the destruction of Hiroshima with the words “this is the greatest thing in history.” In his message to Congress on October 3 1945, however, He called for “international arrangements looking, if possible, to the renunciation of the use and development of the atomic bomb”<sup>7</sup> Secretary of State Acheson’s first reaction was “...the atomic bomb is the most frightening yet. If we can’t work out some sort of organization of great powers, we shall be gone geese for fair”<sup>8</sup> Secretary of War Stimson also vacillated, but basically fixed on a conception of *nuclear anxiety* and urged sharing scientific information as a good faith gesture. On the whole, in the first years of the nuclear age, nuclear weapons seem to have been viewed as a sinister device, and nuclear abolition was pursued with surprising vigor, at least as compared to the subsequent efforts.

Once the cold war began in earnest, however, American and Russian policy-makers fixed on a conception of *nuclear optimism*. *Nuclear anxiety* did not become a dominant conception again until 1983, when President Reagan announced his strategic defense initiative and asserted that he wanted American scientists “to give us the means of rendering <nuclear> weapons impotent and obsolete” so that Americans could live “secure in knowledge that their

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<sup>7</sup> James Chase, “Sharing the Atom Bomb,” *Foreign Affairs*, Volume 75, No. 1, January/February 1996, PP 129-135

<sup>8</sup> James Chase, “Sharing the Atom Bomb”, *Foreign Affairs*, Volume 75, No. 1, January/February 1996, PP 129-132

security did not rest on the threat of instant retaliation.” While Ronald Reagan’s Strategic Defense Initiative and early nuclear abolition proposals are generally considered to reflect opposite ends of the political spectrum, they both reflect the same conception.

What is important however, is not that General Butler has adopted this new conception, nor that it has appeared in the past. Rather, the critical point is that this conception appears much more broadly today than ever before. And, this conception can help to explain many of the dramatic steps that have been witnessed in the past decade. In the US, for example, according Stephen Cambone and Patrick Garrity of the Center for Strategic and International Studies, while the US’s Nuclear Posture Review recommended minor changes in US nuclear strategy, US actions point to a policy of devaluing or marginalizing nuclear weapons. According to their work, if Clinton administration efforts succeed, “nuclear weapons will indeed be on their way to ultimate global extinction”<sup>9</sup>

Moreover, during the first 50 years of the nuclear age, no nation that possessed nuclear weapons were willing to yield this capability. However, in the past decade, several countries have slowed, halted or reversed their programs. Ukraine, Belarus, and Kazakhstan have allowed the removal of nuclear weapons that they inherited with the breakup of the Soviet Union. South Africa dismantled and allowed international inspection of the material from its stockpile of nuclear weapons. Argentina and Brazil, both close to a nuclear weapons capability, agreed to bring into force the Treaty of Tlatelolco with the obligations to bilateral inspections. Moreover, the international community through the UN has supported forced dismantlement and continued inspection of Iraq’s nuclear program. Finally, 178 nations have

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<sup>9</sup> Stephen A Cambone and Patrick Garrity, “The Future of US Nuclear Policy,” *Survival*, vol. 36, no. 4, Winter 1994-1995, p. 90

agreed to the indefinite extension of Nuclear Nonproliferation Treaty, a step that was impossible during the cold war and the period of *nuclear optimism*.

These steps reflect a fundamentally different conception of nuclear weapons than was held by many for most of the cold war. For example, it was not until 1970 that the above mentioned Treaty limiting the spread of nuclear weapons was brought into force. And even as originally conceived, the term was not indefinite, but rather to be reconsidered 25 years after its conclusion. Moreover, when concluded, the Treaty was not supported by two nuclear weapons states (France and China), despite the fact that it preserved their right to possess nuclear weapons

Two *caveats* are needed here. First, the nuclear conception argument is not universal. It cannot apply to all countries or all individuals. Many have not changed their views at all with the end of the cold war. Moreover, in key countries such as Israel and India, the conception or attitude toward nuclear weapons appears unaltered. Second, in each the above examples, one can point to incentives given for the nuclear disarmament or strong rationales for a change in nuclear policy. However, if nuclear weapons were viewed as inherently useful tools -- that is, a conception of *nuclear optimism* -- it is unlikely that these rationales or incentives would have been sufficient. Moreover, in a world of *nuclear optimism*, it is unclear that these incentives would have been offered in the first place.

#### Old Nuclear Conceptions and New Nuclear Strategies

If nuclear strategies are formed based on nuclear conception and these conceptions are in a process of transition, then there are important implications for defense policies. There are both opportunities and threats. On the one hand, there may be an opening for new international cooperative efforts to deal with nuclear weapons that are today considered

unrealistic. On the other hand, the operation and effectiveness of nuclear deterrence may be threatened

*Nuclear anxiety* may in fact be a self fulfilling conception. The chances of miscalculation are heightened when conceptions are in transition. For example, a conception of *nuclear anxiety* could lead nations that possess nuclear weapons to change declaratory policies. While nuclear nations have maintained a tradition of non-use, all have thus far held that under appropriate conditions, they would in fact use such weapons. This threat supports the nuclear deterrent. If *nuclear anxiety* leads nations to emphasize that a nuclear conflict is unthinkable, the deterrent will be weakened, even if the object of the deterrent is otherwise inclined to believe that the threat of nuclear use is real. The response may be provocative actions. In his 1953 essay *Strategy in the Missile Age*, Bernard Brodie urged against declaratory policies on the non-use of nuclear weapons because it is not possible to predict in advance exactly how one may act under adverse conditions, regardless of initial intent. This advice is still relevant today. At the same time, it is possible that, regardless of the declaratory policy of nuclear nations, other nations may not take nuclear threats seriously and the results may be equally catastrophic

Though the risk of nuclear use may be increased by the new and changing conception, cooperative efforts to limit nuclear dangers would be aided. Proposals that have been considered impractical for decades because of the need for intrusive monitoring or other cooperative requirements, or simply the will to pursue them, may in fact become more plausible. General Butler's assertion that "a swelling global refrain will" convince nations to forgo nuclear weapons, though dramatically stated, may in fact be more realistic than it initially appears. More likely though, we will see only a greater willingness on the part of nuclear

nations to link their deployments to nonproliferation efforts and greater diplomatic and economic incentives for disarmament and penalties for nuclear acquisition. We may see, for example, a culture which supports efforts to strike nuclear facilities of selected nations of nonproliferation concern. At the same time, former President Reagan's vision of international cooperative efforts to develop effective national ballistic missile defense capabilities may become more than rhetoric (though physical realities will likely ensure that it does not become a reality)

### Conclusion

Nuclear weapons have existed only during a very unique period in international relations -- the cold war. All human thought concerning these weapons was formed during this particular period. It should not be surprising then, that when this period ended, basic human conceptions would change. This essay has argued that human conceptions and the environment interact in a nonlinear way to offer nuclear policy, or what is sometimes called nuclear strategy. To some extent, conceptions or belief structures surround all new weapons. The difference with regard to nuclear weapons is that these belief structures cannot be tested, and thus the conceptions perpetuate unchecked. We have not speculated on the source of these human conceptions or their likely course. Nor have we addressed which conception is the "right" one. The key point is to recognize that policies are based on these conceptions, and that new threats and opportunities may be offered as these conceptions change.